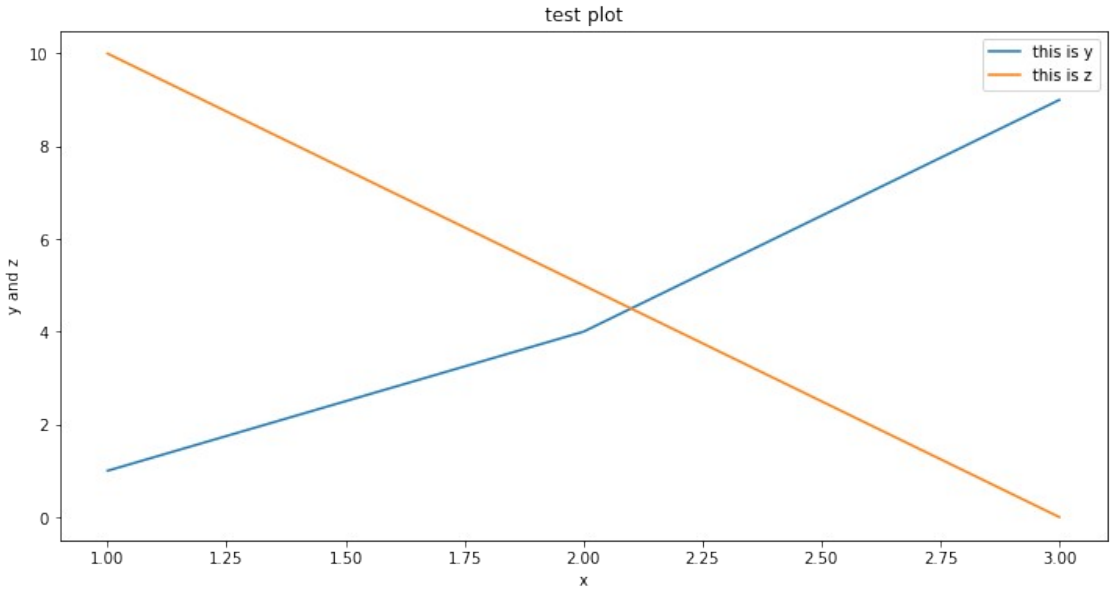
```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
%matplotlib inline

x = [1, 2, 3]
y = [1, 4, 9]
z = [10, 5, 0]
plt.figure(figsize=(12, 6))
plt.plot(x, y)
plt.plot(x, z)
plt.title("test plot")
plt.xlabel("x")
plt.ylabel("y and z")
plt.legend(["this is y", "this is z"])
plt.show()
```




```
data = pd.read_csv('data\countries.csv')

data
```

	country	year	population
0	Afghanistan	1952	8425333
1	Afghanistan	1957	9240934
2	Afghanistan	1962	10267083
3	Afghanistan	1967	11537966
4	Afghanistan	1972	13079460
...	...	...	...
1699	Zimbabwe	1987	9216418
1700	Zimbabwe	1992	10704340
1701	Zimbabwe	1997	11404948
1702	Zimbabwe	2002	11926563
1703	Zimbabwe	2007	12311143

```
[1704 rows x 3 columns]
```

```
Egypt = data[data.country == 'Egypt']
```

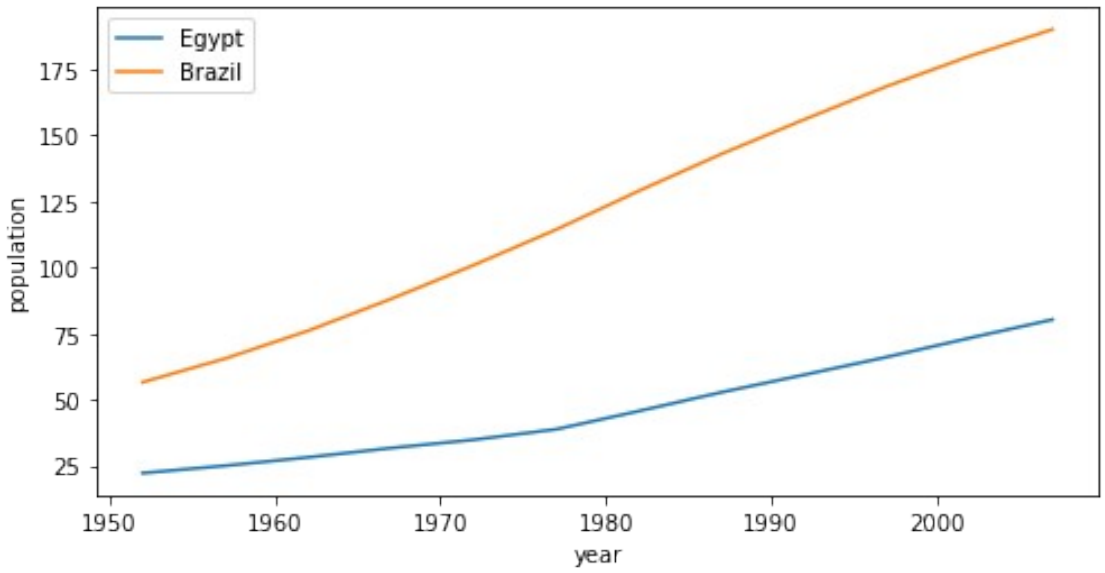
```
Egypt
```

```
    country  year  population
456   Egypt  1952    22223309
457   Egypt  1957    25009741
458   Egypt  1962    28173309
459   Egypt  1967    31681188
460   Egypt  1972    34807417
461   Egypt  1977    38783863
462   Egypt  1982    45681811
463   Egypt  1987    52799062
464   Egypt  1992    59402198
465   Egypt  1997    66134291
466   Egypt  2002    73312559
467   Egypt  2007    80264543
```

```
Brazil = data[data.country == 'Brazil']
Brazil
```

```
    country  year  population
168  Brazil  1952    56602560
169  Brazil  1957    65551171
170  Brazil  1962    76039390
171  Brazil  1967    88049823
172  Brazil  1972   100840058
173  Brazil  1977   114313951
174  Brazil  1982   128962939
175  Brazil  1987   142938076
176  Brazil  1992   155975974
177  Brazil  1997   168546719
178  Brazil  2002   179914212
179  Brazil  2007   190010647
```

```
plt.figure(figsize=(8, 4))
plt.plot(Egypt.year, Egypt.population / 10**6)
plt.plot(Brazil.year, Brazil.population / 10**6)
plt.legend(['Egypt', 'Brazil'])
plt.xlabel('year')
plt.ylabel('population')
plt.show()
```




```
plt.figure(figsize=(12, 6))
plt.plot(Egypt.year, Egypt.population / Egypt.population.iloc[0] *
100)
plt.plot(Brazil.year, Brazil.population / Brazil.population.iloc[0] *
100)
plt.legend(['United States', 'Brazil'])
plt.xlabel('year')
plt.ylabel('population growth (first year = 100)')
plt.show()
```